

VT-005 Antenna Positioner User Manual



JDA Systems, Gutenbergstrasse 4, 26632 Ihlow Riepe, Germany

Tel: +49-4928-91560

Fax: +49-4928-915620

Web: www.jda-tele.com

E-mail: sale@jda-tele.com

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Chapter 1: Introducing the VT-005 Antenna Positioner

About This Users Manual

You are reading the Portable Test Unit (VT-005) User's Manual, This User's manual provides information regarding the various components in the VT-005 and how to use them. The following are major sections of this user manual.

1. Introducing the VT-005

Introduces you to the VT-005 and this User's Manual

2. Knowing the Parts

Gives you information on the VT-005's components

3. Getting Started

Gives you information on getting started with the VT-005.

4. Using the VT-005

Gives you information on using the VT-005

5. Appendix

Introduces you to the optional components and gives additional information.

NOTE

The actual software and operating systems installed for your VT-005 may differ from those shown in this manual. Please accept your software installation provided as being correct.

Notes for this Manual

A few notes and warnings are used throughout this guide, allowing you to complete certain tasks safely and effectively. These notes have different degrees of importance as follows:



WARNING! Important information that must be followed for safe operation.



IMPORTANT! Vital information that must be followed to prevent damage to data, components, or persons.



TIP: Tips for completing tasks.



NOTE: Information for special situations.

Safety Precautions

The following safety precautions will increase the life of the VT-005. Follow all precautions and instructions. Except as described in this manual, refer all servicing to qualified personnel.



Disconnect the AC power before cleaning the VT-005. Wipe the VT-005 using a clean lint free cloth dampened with a solution of nonabrasive detergent and a few drops of warm water and remove any extra moisture with a similar dry cloth

Do not clean on uneven or unstable work surfaces. Seek servicing if the case or external connectors have been damaged.

Do not place or drop objects on top of the VT-005 and do not force any foreign objects into the VT-005.

Do not operate the VT-005 near explosives or during a gas leak.

Do not expose the VT-005 to strong magnetic or electrical fields.

Do not press with excessive pressure on the display panel or close the display covers with object laying on them that may damage the screen.

Do not expose the VT-005 to standing water or operate the VT-005 for extensive periods of rain or spray.

Do not use the Ethernet connection when exposed to an electrical storm.

Do not leave the VT-005 on your lap or any part of the body to prevent discomfort or injury.

SAFE TEMP: This VT-005 should only be used for extended periods of time in environments with ambient temperatures between -20C and +50C.

INPUT RATING: Make sure that your power supply provides voltages between 96-260 VAC and 50Hz to 60Hz.

Do not carry or cover the VT-005 when it is powered on with any materials that may reduce air circulation such as a carrying case.

Do not use strong solvents such as thinners, benzene or other chemicals on any surface of the VT-005.

Do not use damaged power cords, accessories cables or peripherals.



Do not throw the VT-005 in municipal waste. This product has been carefully designed to enable proper reuse of parts and recycling. Check local regulations for disposal of electronic products.

Transportation Precautions

To prepare the VT-005 for transport, you should turn it off and disconnect all external peripherals to prevent damage to the connectors. Therefore you should not transport the VT-005 while the power is still on. Close any open covers and ensure that that these are fully closed to protect the unit during transportation.



CAUTION! The VT-005's surface may become scratched if not properly cared for. Be careful not to rub or scratch the VT-005 surfaces.

Cover Your VT-005

A transport box when used and closed may better protect the VT-005 from dirt, water, shock and scratches.

Airplane Precautions

Contact the person responsible for the aircraft safety if you want to use the VT-005 on an aircraft.



CAUTION: There are three main types of aircraft security devices: X-Ray machines (used on items placed on conveyor belts), magnetic detectors (used on people walking through security checks), and magnetic wands (hand-held devices used on people or individual items). You can send the VT-005 through airport X-ray machines. However it is recommended that you do not send the VT-005 through airport magnetic detectors or expose them to magnetic wands.

Preparing your VT-005

These are only quick instructions for using your VT-005.

Opening the VT-005 legs

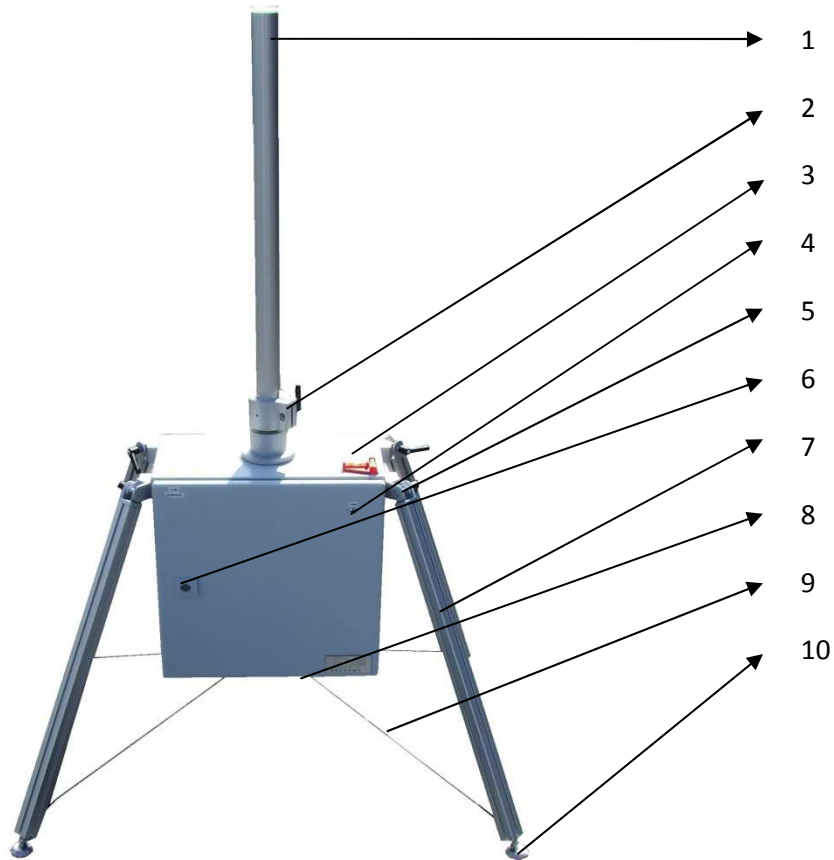
1. Loosen the black leg joint locking handles on the tops of the VT-005 legs.
2. Carefully move all the legs of the VT-005 away from the antenna until they are in their extended positions .
3. Check the installed bubble level to ensure that the VT-005 antenna positioner is completely level.
4. Rotate the black leg joint locking handles to tighten and lock the leg joints in position

Connecting the interface cables

1. Connect the supplied Ethernet interface cable to the underside Ethernet socket.
2. Insert and rotate the power cable into the underside power socket to lock it in place.
3. No power switch is provided thus avoiding the risk of depowering the VT-005 during operation. Therefore power will be immediately available when an active power cable is inserted. A power indicator lamp is provided on the body of the antenna rotator to indicate correct power application.

Chapter 2: Knowing the parts

Front Side



1. Removable Antenna Mast

The antenna mast is removable by loosening the antenna mast clamp (2) and lifting the mast upwards. The mast is used to elevate the users antenna and as a firm clamping post to allow for the users antennas clamp installation



2. Antenna Mast clamp

The antenna mast clamp is used to fix the antenna mast to the main body of the VT-005 antenna rotator. Rotating the locking clamp in the clockwise direction will tighten the clamp.

3. Bubble Level Indicator

The bubble level indicator allows the user to detect the angle, if any, of the antenna positioner in regard to the perpendicular in two axis .



4. Power Indicator

The power indicator will light when mains power is attached and the internal power supply is operating normally .

5. Support Leg Locking Clamp

The support leg clamps (four in total, one for each leg) are used to lock the antenna rotator support legs in position. Rotating the locking clamps in the clockwise direction will tighten the clamps.

6. Main Body Panel Access Door Lock

Access to the electronics and mechanics fitted within the antenna rotator body can be obtained through the main body panel access door. This may be locked closed using the door lock and key provided. Rotating the key in the anticlockwise direction will lock the door

7. Antenna Support Leg

The four antenna support legs are used to support and brace the body of the antenna rotator when in operation. Four clamps are fitted to the top of the legs and are used to lock the antenna rotator support legs in position. Rotating the locking clamps in the clockwise direction will tighten the clamps.



IMPORTANT! All four legs must be fully extended away from the body of the VT-005 before the antenna rotator is powered on and operated. This is to avoid the antenna rotator from falling during operation.

8. Underbody Connection Sockets

Two connection sockets are provided on the underside of the antenna body, one for the mains power and one for the controlling Ethernet connection. Both make watertight seals when the provided cables are used for the two necessary connections



9. Support Leg Restraining Wire

The four support leg restraining wires, one for each leg, allow the support legs to be extended away from the main body of the antenna rotator by a controlled amount. This is the optimum amount for proper antenna elevation while still withstanding forces that may work to topple the antenna rotator e.g. wind.

10. Adjustable Foot

Each of the four support legs is terminated in an adjustable foot. This self leveling foot may be rotated in the clockwise direction to move the foot closer to the leg or the anticlockwise direction to move the foot away from the leg. This adjustment allows for a certain amount of unlevel to be adjusted for in the body of the antenna rotator.

Chapter 3: Getting Started

Power System

The VT-005 is supplied with a removable power supply cable. The internal power supply is a universal voltage unit. That means that you may connect the power cord to any 96-260 VAC and 50Hz to 60Hz outlet without setting switches or using power converters. Different countries may require that an adapter be used to connect the provided European standard AC power cord to a different standard. It is always best to check what is required before bringing power adapters to another country.



IMPORTANT! Damage may occur if you use a different and incompatible power cable to the type which is delivered with the VT-005. If there is smoke, a burning smell or extreme heat coming from the VT-005 then urgently seek servicing.



This VT-005 may come with either a two or three-prong plug depending on territory. If a three-prong plug is provided then you must use a grounded AC outlet or use a properly grounded adapter to ensure safe operation of the VT-005.



WARNING: The internal power supply may become warm when in use. Be sure not to cover the VT-005 when operating and to keep the VT-005 away from your body.



WARNING: The VT-005 is designed to act as an antenna rotator. The rotation function may start at any time so it is important to maintain a safe distance at all times between the antenna rotator and any object that may be within its rotational reach. Operators should never approach the antenna rotator when it is powered on and the controlling software is operational.



Unplug the power cable or switch off the AC outlet to minimize power consumption when the VT-005 is not in use.

Powering ON the VT-005

The VT-005 powers on automatically when power is applied.

The ACU computer on which the provided software runs must have a Windows operating system of XP level or higher.



Before booting up the display may flash when the power is applied. This is part of the VT-005's test routine and is not a problem with the display.



IMPORTANT: To protect the antenna rotator always wait at least 5 seconds after turning OFF the VT-005 before turning it back ON.



WARNING: Do not carry or cover the VT-005 when it is powered on with any materials that may reduce air circulation such as a carrying case.

The Power-On Self Test (POST)

When you turn on the VT-005, it will start to run through a series of software controlled diagnostic tests called the Power-On Self Test (POST). The software that controls the POST is installed as a permanent part of the VT-005's architecture. The POST includes a record of the VT-005's hardware configuration which is used to make a diagnostic test of the system.

Restarting or Rebooting

After making changes to your operating system, you may be prompted to restart the VT-005. Some installation processes will provide a dialog box to allow a restart. To restart the system manually, choose **Restart**.



IMPORTANT: To protect the antenna rotator always wait at least 5 seconds after turning OFF the VT-005 before turning it back ON.

Emergency Shutdown

In the extreme case that your operating system cannot properly turn OFF or restart there is a additional way to shut down your VT-005 and that is to remove the main power supply to the VT-005 antenna rotator.



IMPORTANT: Do not use the emergency shutdown while the antenna rotator is moving unless this is the only way to regain control of the system

Status Indicators

System Power

The system power red LED indicator illuminates when the VT-005 is ON and the main power supply is powered up and operating normally.

Chapter 4: Using the VT-005

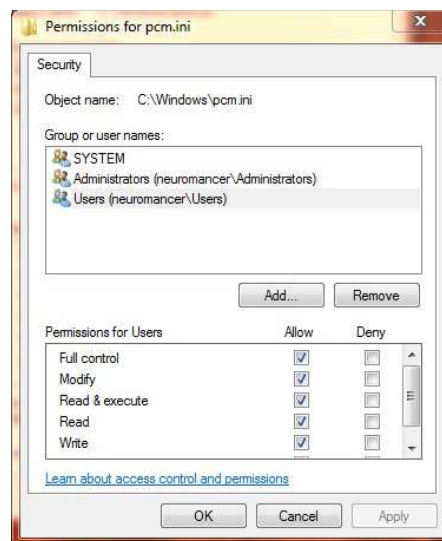
Installing the supplied ACU software

The VT-005 is supplied with a Windows XP or higher compatible controlling software.

This software has all the standard capabilities of the ACU software used with other JDA Systems antennas, except that it controls only the azimuth axis.

To install the software:

- 1) place the provided files in a directory called C:\VUSOFT.
- 2) Move the PCM.INI file to the C:\WINDOWS subdirectory.
- 3) Open the properties dialog for the PCM.INI file and select the security tab.
- 4) Select the Edit... button
- 5) In the Group or user names: list select Users
- 6) In the Permission for Users section select Full Control and then OK



- 7) If required run the provided Visual Studio 10 runtime libraries, both 32 and 64 bit.
- 8) The default Ethernet address of the antenna rotator is 192.168.1.12 mask 255.255.255.0 and at Port 4500. It is therefore necessary to have the ACU computer on the same network within the correct address range for communication with the VT-005 antenna rotator. It is best to start with a fixed ACU Ethernet address something like 192.168.1.25 mask 255.255.255.0 to ensure proper communication.
- 9) Connect both mains power and the provided Ethernet cable to the VT-005 antenna rotator and ensure that it can be found by the ACU computer by using a ping utility, or something similar.

10) Ensure that there is nothing near the antenna rotator that may be damaged by the VT-005 initial calibration movements, which may be up to 360 degrees in size in either the clockwise or anticlockwise directions.

10) Start the C:\VUSOFT\vusoftnt.exe program and note the ACU message sif any to check for normal operation.

Network Connection

Connect the provided network cable with RJ-45 connectors on each end to the network port on the underside of the VT-005 and the other end to a switch or hub. The antenna rotator requires a 100 BASE-TX.



1000BASE-T (or Gigabit) is supported on the VT-005 although the speed of the VT-005 itself is 100 BASE-TX.

Twisted-Pair Cable

The cable used to connect the Ethernet card to a host (generally a Hub or Switch) is called a straight through Twisted Pair Ethernet (TPE). The end connectors are called RJ-45 connectors, which are not compatible with RJ-11 telephone connectors. If connecting two computers together without a hub in between a cross over LAN cable will be required only if one or both ends of the link does not support auto-crossover which is standard on Giganet interfaces.

Appendix

Optional Accessories

The following optional items may compliment your VT-005

Ethernet Hub

Attached to an optional Ethernet hub will increase your available Ethernet ports and allow you to quickly connect or disconnect many Ethernet peripherals through a single cable.

Operating System and Software

This VT-005 antenna rotator software is to be used with a customer supplied ACU computer with preinstalled Microsoft Windows operating system of XP or higher. The stability and compatibility of other operating systems cannot be guaranteed or supported.

Support Software

The VT-005 comes with an electronic transfer of the application software to enable the hardware features, extend functionality, and help manage your VT-005. If updates or replacement of the software is necessary contact your dealer or JDA Systems directly for details of how to obtain updates.

It is recommended that the user generates a suitable recovery disk to allow the VT-005 software to be recovered in case of a damaged hard disk. You may contact your VT-005 supplier or JDA Systems directly if you require more detail for such a solution.



Some of the VT-005 components and features will not work until the software is installed.

Common Problems and Solutions

Hardware Problem – Optical Disc

The optical disc drive is not able to read or write discs when the external optical disc drive is connected.

1. Update the BIOS to the latest version and try again
2. If updating the BIOS does not help, try better quality discs and try again.
3. If the problem still persists then contact you dealer and ask an engineer for assistance.

Unknown Reason – System Unstable

1. Remove any upgraded parts (RAM, HDD) is they were installed after purchase
2. If this does not resolve the issue try MS System Restore to an earlier data.
3. If problems still persist try restoring your system using the DVD.
4. If the problem still persists then contact you dealer and ask an engineer for assistance.



IMPORTANT! You must backup all your data to another location before recovering.

Mechanical Problem – FAN / Thermal

Why is the system temperature high?

1. Make sure that the FAN works when the CPU temperature is high and check that there is air flow through the air vents on the base of the unit.
2. If you have many applications running (see taskbar) then close them to decrease the system load.
3. The problem may be caused by some viruses try using anti-virus software to detect and remove them,
4. If none of the above helps try restoring your system using the provided DVD's.



IMPORTANT! You must backup all your data to another location before recovering.

Unknown Reason – Blue screen with white text

A blue screen with white test appears after system boot up.

1. Remove additional memory if additional memory was installed after purchase. Power OFF and remove the additional memory and then power ON to see if the problem is due to incompatible memory.
2. Uninstall software applications. If you have installed software applications recently then they may not be compatible with your VT-005. Try to uninstall them in Windows Safe Mode.
3. Check your system for viruses
4. Update the BIOS to the latest version with the BIOS update utility supplied with your VT-005. These utilities and BIOS files can be downloaded from the internet.
5. If the problem still cannot be solved, use a recovery process to reinstall your entire system.
6. If the problem still persists then contact you dealer and ask an engineer for assistance.



WARNING! Ensure that your VT-005 does not lose power during the BIOS flashing process.



IMPORTANT! You must backup all your data to another location before recovering.



CAUTION! Do not connect to the internet if your anti-virus protection has been disabled or the network firewall is not active.

Declarations and Safety Statements

Federal Communications Commission Statement

The device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



The use of a shielded type power cable is required in order to meet FCC emission limits and to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used. Use only shielded cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

(Reprinted from the Code of Federal Regulations #47, part 15.193, 1993. Washington DC: Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office.)

Declaration of Conformity (R&TTE directive 1999/5/EC)

The following items were completed and are considered relevant and sufficient:

- Essential requirements as in [Article 3]
- Protection requirement for health and safety as in [Article 3.1a]
- Testing for electric safety according to [EN 60950]
- Protection requirement for electromagnetic compatibility in [Article 3.1b]
- Testing for electromagnetic compatibility in [EN 301 489-1] & [EN 301 487-17]
- Effective use of the radio spectrum as in [Article 3.2]
- Radio test suites according to [EN 300 382-2]

CE Marking



CE Marking for devices without wireless LAN/Bluetooth

The shipped version of this device complies with the requirement of the EEC directives 2004/108/EC “Electromagnetic compatibility” and 2006/95/EC “Low voltage directive”.

IC Radiation Exposure Statement for Canada

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with IC RF exposure compliance requirement, please avoid direct contact to the antenna connections during data transmission. End users must follow the specific operating instructions for satisfying RF exposure compliance.

Operation is subject to the following conditions:

- This device may not cause interference and
- This device must accept any interference, including interference that may cause undesirable operation of the device.

To prevent radio interference to the licensed service (i.e. co-channel Mobile Satellite systems) this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Optical Drive Safety Information

Laser Safety Information

External optical drives sold with this VT-005 contain a CLASS 1 LASER PRODUCT. Laser classifications can be found in the glossary at the end of that products user’s manual



WARNING! Making adjustments or performing procedures other than those specified in the user’s manual may result in hazardous laser exposure. Do not attempt to disassemble the optical drive. For your safety, have the optical drive serviced only by an authorized service provider.

Service warning label



CAUTION: Invisible laser radiation when open. Do not stare into the beam or view directly with optical instruments.

CDRH Regulations

The center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States.



WARNING! Use of controls or adjustments or performance of procedures other than those specified herein or in the laser product installation guide may result in hazardous radiation exposure.

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JDA will only be responsible for or indemnify you for loss, damages or claims based in contract, tort or infringement under this Warranty Statement.

This limit also applies to JDA's agents. It is the maximum for which JDA and its agents are collectively responsible.

Under no circumstances is JDA liable for any of the following:

1. Third party claims against you for damages.
2. Loss of, or damage to, your records or data
3. Special, incidental, or indirect damages, or for any economic consequential damages (including lost profits or savings, even if JDA or its agents is informed of this possibility).

Service and Support

Please contact the agent from who you purchased the VT-005 or JDA Systems directly. Contact details for JDA are available on their website <http://www.jda-tele.com>